

REMARKS

Claims 1-24 and 26-33 are pending, with claims 1, 10, 19, and 27 being in independent form. By the present amendment, claims 5, 8, 14, 17, 23, 26, and 31 have been amended and claim 25 has been canceled without prejudice or disclaimer.

Applicants acknowledge with appreciation the indication of allowability of claims 5-7, 9, 14-16, 18, 23, 31, and 33.

In the Office Action, the Abstract is objected to. Applicants have included a replacement Abstract.

The drawings have been objected to for various informalities listed on form PTO-948. Applicants are submitting replacement figures 1-4 with this paper, entry of which would address the objections raised.

Claims 23 and 31 have been amended merely to address informalities raised in the Action under the rules of the Office. In addition, claim 25, which claim number was apparently skipped in the initial filing, has been canceled to have minimal impact on the current claim numbering scheme. Thus, these amendments were made for reasons unrelated to the statutory requirements for a patent and have not narrowed the scope of the claims. Accordingly, the amendment of these claims does not raise any presumptions regarding, nor trigger the application of the doctrine of prosecution history estoppel to limit the range of equivalents.

Applicants disagree with the Examiner's position regarding the rejections of claims 5, 6, 8, 9, 14, 17, 18, and 26 for indefiniteness. The language of these claims, prior to this amendment, is believed to be reasonably clear to those of ordinary skill in this art, which is all that is required by the statute.

Nevertheless, claims 5, 8, 14, 18, and 26 have been amended to make explicitly clear that which was already at least implicitly clear from the claims. These amendments were made for reasons unrelated to the statutory requirements for a patent and have not narrowed the scope of the claims. Accordingly, the amendment of these claims does not raise any presumptions regarding, nor trigger the application of the doctrine of prosecution history estoppel to limit the range of equivalents.

The rejections of claims 6, 8, 9, 17, and 18 for indefiniteness, however, are respectively traversed.

According to Section 2173.02 of the MPEP, "Definiteness of claim language must be analyzed, not in a vacuum, but in light of: (A) The content of the particular application disclosure; (B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." In addition, the inquiry is "whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. . . . [The Examiner] should allow claims which define the patentable subject matter with a reasonable degree of particularity and distinctness. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire. Examiners . . . should not reject claims or insist on their own preferences if other modes of expression selected by applicants satisfy the statutory requirement."

It is submitted that the claims are reasonably clear and meet the requirements of the MPEP. For example, in claim 6, "the adapted location" has antecedent basis in claim 5 in the term "adapting a location...". The term in claims 8 and 17, "the fast frequency hopping traffic channel avoids a location of the slow frequency hopping traffic channel," would be understood by one of ordinary skill in this art to mean that the two channels do not share the same frequency at the same time. In claims 9 and 18, "the location..." has antecedent basis in claims 8 and 17, respectively.

Claims 1, 8, 10, 17, 19, 24, 27, and 32 stand rejected for obviousness over U.S. Patent No. 6,519,245 to Bird, claims 2, 3, 11, 12, 20, 21, 28, and 29 over Bird in view of U.S. Patent No. 6,061,389 to Ishifuji et al. ("Ishifuji"), and claims 4, 13, 22, and 30 over Bird in view of U.S. Patent No. 5,448,569 to Huang et al. ("Huang").

Applicant's communication system employs dual frequency hopping using a narrow band, fast frequency hopping channel for low-speed communications, and wide-band, slow frequency hopping channel for high-speed communications. Furthermore, the fast frequency hopping channel dynamically avoids the frequency range momentarily occupied by the slow frequency hopping channel. Since the sequences and phases of both the fast frequency hopping channel and the slow frequency hopping channel are known, the fast frequency hopping radios adapt their sequence continuously in order to avoid the slow frequency hopping channel.

Bird discloses a communication system that includes at least two hubs for transmitting selection signals and transmitting and receiving operational signals, and at least one mobile unit for receiving the selection signals for selecting a particular one of the hubs and then communicating with the selected hub with the operational signals. The signals are transmitted in non-overlapping time slots dedicated for the selection signals and the operational signals. Bird further discloses that the communications between the mobile units and a selected hub may include frequency hopping scheme whether it be a slow hopping for a fast hopping scheme.

In accordance with the MPEP, the cited documents must teach or suggest all of the claim limitations to establish a prima facie case of obviousness. The obviousness rejections cannot stand at least because the cited document(s) fails to teach or suggest all of the claim limitations. Motivations to combine the cited documents and reasonable expectations of successful combinations would also be absent, but it should be sufficient to point out the absent limitations.

According to claim 1, a method for communication using a plurality of time slots within a frequency spectrum, comprises establishing a fast frequency hopping traffic channel between a first and a second communication unit, the fast frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum, AND establishing a slow frequency hopping traffic channel between a third and a fourth communication unit, the slow frequency hopping traffic channel having a second set of hop carrier frequencies within the frequency spectrum.

Bird fails to disclose employing both a slow frequency hopping channel and a fast frequency hopping channel as claimed. Bird discloses a system that may employ a fast frequency hopping scheme OR a slow frequency hopping scheme, whereas claim 1 employs both a fast hopping channel and a slow hopping channel. That is, Bird discusses fast frequency hopping as an alternative to slow frequency hopping, not in addition to slow frequency hopping. See *col. 5, ll.61-67*.

Accordingly, claim 1 is patentably distinguishable over Bird. The remaining pending claims are also patentably distinguishable for at least the same reasons.

Ishifuji discloses a frequency hopping communication system having a plurality of wireless mobile stations and at least one base station. Each wireless mobile station is operated to communicate according to a communication frame

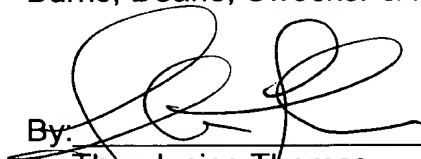
format generated by a base station. The system performing slow frequency hopping by keeping a frequency hopping interval within each frame. The hopping pattern of a frequency is designated at a field located at the tail of each communication frame by the base station. Huang discloses a method for handoff in a wireless communication network that employs slow frequency hopping. However, both Ishifuji and Huang fail to overcome the deficiencies of Bird. More specifically, both Ishifuji and Huang fail to disclose or suggest a system that employs both a slow frequency hopping channel and a fast frequency hopping channel as claimed. Therefore, even if one skilled in the art were motivated to combine Bird and Ishifuji or Huang, the combination would still fail to render the pending claims unpatentable.

Accordingly, since the cited document(s) fails to disclose or suggest all of the claim limitations for at least the above reasons, the obviousness rejections of the claims should be withdrawn.

For the foregoing reasons, Applicants believe entry of this Amendment would put the application in condition for allowance. Thus, it is respectfully requested that the Amendment be entered, and a Notice to this effect be provided. If any questions remain, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,

Burns, Doane, Swecker & Mathis, I.I.p.

By: 
Theodosios Thomas
Registration No. 45,159

P.O. Box 1404
Alexandria, Virginia 22313-1404
(919) 941-9240

Date: June 24, 2004

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addresses to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 24, 2004

Ted Thomas
(Typed Name of Person Signing Certificate)


(Signature of Person Signing Certificate)

Date of Signing: June 24, 2004